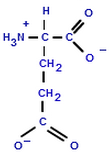
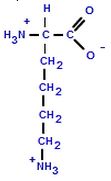
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_

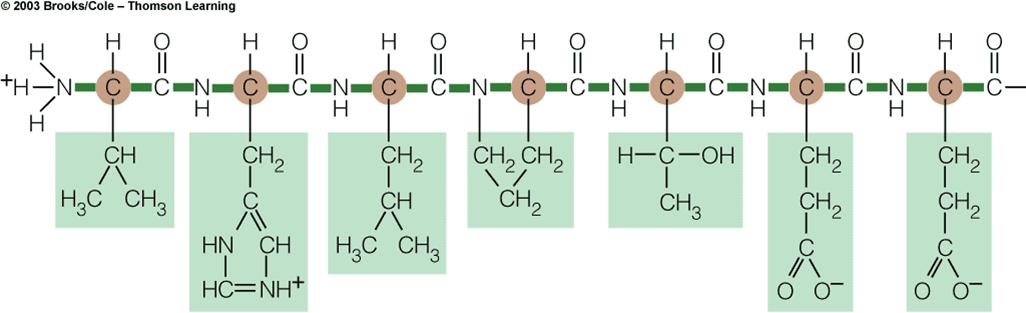
**Questions to Go Along with the Unit 4 Notes, Part 3 – Macromolecules (Section B)**

Ms. OK, AP Biology, 2014-2015

1. If the side-chain of an amino acid includes many carbon and hydrogen atoms, will the amino acid be polar or nonpolar? *Hint: Look at the properties of the functional group methyl in your Section A notes.*
2. What type of bond will form between amino acids with R groups that have opposite charges? See images of both amino acids below.

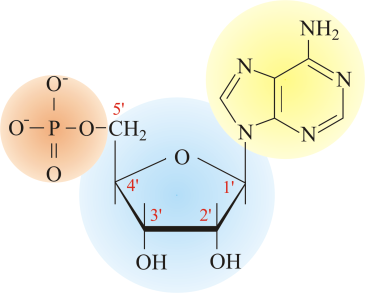
 

1. In the image below of a polypeptide, label the following components: the N-terminus, the C-terminus, a peptide bond, a carboxyl group, an amino group, an R group, a central carbon atom, and a single amino acid.



1. Identify the level of protein structure shown in each of the images below (i.e., primary, secondary, tertiary, or quaternary structure), and provide an explanation for your choice.

|  |  |  |
| --- | --- | --- |
| **Image** | **Level of Structure** | **Explanation** |
|  |  |  |
|  |  |  |
| **Image** | **Level of Structure** | **Explanation** |
|  |  |  |
| http://faculty.ccbcmd.edu/~gkaiser/biotutorials/proteins/images/u4fg1b3.jpg |  |  |



1. Label the parts of the nucleotide picture to the right.
2. Describe the differences between DNA and RNA.
3. Compare and contrast proteins and nucleic acids using the chart below.

|  |  |  |
| --- | --- | --- |
|  | Proteins | Nucleic Acids |
| Elements Present |  |  |
| Functions |  |  |
| Monomers (Name and/or Examples) |  |  |
| Polymers (Name and/or Examples) |  |  |